

Amendment and Response Under 37 C.F.R. 1.116

Applicant: Ray A. Walker

Serial No.: 10/044,476

Filed: January 10, 2002

Docket No.: 10019374-1

Title: METHOD AND APPARATUS FOR TRANSFERRING INFORMATION BETWEEN A PRINTER PORTION AND A REPLACEABLE PRINTING COMPONENT

REMARKS

This Amendment and Response is responsive to the Final Office Action mailed March 13, 2003, in which claims 1-25 were rejected, as well as the Advisory Action mailed May 30, 2003, and the Examiner Interview conducted June 12, 2003. With this Amendment and Response, claims 1, 2, 4-7, 9-13, 15-23 and 25 have been amended. Claims 1-25 remain pending in the application and are presented for reconsideration and allowance.

Claim Rejections under 35 U.S.C. § 102

Claims 1-25 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Walker U.S. Patent No. 6,302,527.

With respect to independent claim 1, Walker '527 is said to disclose an ink level sensing system (Figure 9, reference 42; column 2, lines 20-29) comprising an ink reservoir having a radio frequency interface disposed therein (Figure 2, reference 24; Figure 9, reference 80; column 6, lines 47-55). Walker is further said to disclose a printing device configured for receiving the ink reservoir (Figure 2, reference 38). The printing device is said to include a radio frequency interface for receiving ink level information that is coupled through the ink reservoir by the radio frequency interface within the ink reservoir (Figure 9, references 74, 80; column 6, lines 47-65; column 7; column 8, lines 1-39). The Examiner has maintained this position in the Advisory Action and in the Examiner Interview, citing Merriam-Webster's Collegiate Dictionary, 10th Edition as defining a reservoir as "a place where something is kept in store". The Examiner thus concludes that it is clear from figures 6-8 of Walker that link 44 of Walker is "within" the ink reservoir.

Independent claim 1 of the present application as amended claims an ink level sensing system for determining ink level in an ink reservoir and providing this ink level information to a printing system. The ink level sensing system comprises an ink reservoir and a printing device configured for receiving the ink reservoir. The ink reservoir has an interior space for containing ink. The ink reservoir has a radio frequency interface disposed within the interior space of the ink reservoir. The printing device includes a radio frequency interface for receiving ink level information that is coupled through the ink reservoir by the radio frequency interface within the interior of the ink reservoir.

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Walker '527 discloses an inkjet printing device that make use of a wireless link for transferring ink level information from a replaceable ink container to a printer portion. In Walker, a replaceable printing component 14 has an ink reservoir portion 24. The reservoir portion 24 includes a housing 32 for containing a supply of ink (column 4, lines 8-9). A linking device 16 includes a sensor 42 for determining status information related to the replaceable printing component 14 and a link 44 for transferring information between the replaceable printing component 14 and the printing portion 12 (column 4, lines 35-39; Figure 3). The sensor 42 is defined by depositing conductive ink on a label 46 to form electrodes. In sensing a fluid level using a capacitance sensing technique, the electrodes extend over a large area on either side of the ink reservoir 24 as shown in Figures 3, 4, 5, and 6. Electrodes sensing the fluid level using a conductive technique are also positioned on either side of the ink reservoir 24 as shown in Figure 7 (column 4, lines 43-57).

Amended independent claim 1 claims an ink level sensing system comprising **an ink reservoir having an interior space for containing ink, the ink reservoir having a radio frequency interface disposed within the interior space of the ink reservoir**. In contrast, Walker '527 shows and teaches a linking device 16, including link 44, that is disposed **on an exterior surface** of an ink reservoir 24, and that is not disposed within the interior space of the ink reservoir where ink is contained. This is clearly shown in Figures 5-7 of Walker '527, in which link 44 is shown on the **exterior** surfaces of housing 32 which contains a supply of ink. Examining Figures 5-7 of Walker '527, it can be seen that ink is contained only within the interior of housing 32. This position is supported by the statement in Walker that "The reservoir portion 24 includes a housing 32, shown in ghost, for containing a supply of ink." (column 4, lines 8-9). Thus, housing 32 defines the boundaries of the interior space of the ink reservoir as is claimed in the present application. As clearly shown in Figures 5-7, link 44 is not positioned within the interior space of housing 32 where ink is contained. Therefore, **link 44 cannot be said to be disposed within the interior space of the ink reservoir as claimed in claim 1**. Nowhere does Walker '527 show, teach, or suggest that the link 44 should or could be disposed **within the interior space** (defined by housing 32) of the ink reservoir 24.

For the reasons discussed above, Walker '527 does not show, teach, or suggest, either implicitly or explicitly, the subject matter of amended independent claim 1. Accordingly,

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withdrawal of the rejection of independent claim 1 under 35 U.S.C. § 102(a) is respectfully requested.

Claims 2 and 4-6, which depend from amended independent claim 1, have been amended to conform to the amendments of independent claim 1.

Dependent claims 2-6 depend from amended independent claim 1, which is in allowable condition for the reasons discussed above. Accordingly, the dependent claims 2-6 are also in allowable condition, and withdrawal of the rejection of those claims under 35 U.S.C. § 102(a) is respectfully requested.

The Examiner has rejected independent claim 7 as being anticipated by Walker '527. In particular, the Examiner found Walker to disclose a replaceable printing component (column 1, lines 62-64) comprising a reservoir for containing printing material (Figure 2, reference 24); a linking device disposed entirely within the reservoir (Figure 8, reference 14, 44) for admitting a signal indicative of printing material within the reservoir (Figure 9, reference 44; column 6, lines 47-67; column 7; column 8, lines 1-39) wherein the reservoir is formed of a material so that admitted signal passes through the reservoir for providing information to the printing system (Figure 5, reference 32; column 4, lines 33-43).

Independent claim 7 has been amended and claims a replaceable printing component for use in a printing system, the replaceable printing component for containing a supply of printing material for use by the printing system to form images on media. The replaceable printing component comprises a reservoir having an interior space for containing printing material, and a linking device disposed entirely within the interior space of the reservoir for emitting a signal indicative of printing material within the interior space of the reservoir wherein the reservoir is formed of a material so that the emitted signal passes through the reservoir for providing information to the printing system.

As discussed above with respect to amended independent claim 1, Walker '527 does not disclose a linking device disposed within an interior space of the ink reservoir, where the interior space is for containing ink. Similarly, Walker '527 does not disclose a **linking device disposed entirely within the interior space of the reservoir**, where the interior space contains printing material, as is claimed in amended claim 7. The comments made with respect to amended independent claim 1 are equally applicable to amended independent claim 7. Thus, for the same reasons discussed with respect to amended independent claim 1,

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Walker '527 does not show, teach or suggest, either implicitly or explicitly, **a linking device disposed entirely within the interior space of the reservoir** for emitting a signal indicative of printing material within the reservoir, as claimed in amended independent claim 7.

Accordingly, withdrawal of the rejection of amended independent claim 7 under 35 U.S.C. § 102(a) is respectfully requested.

Claims 9-12, which depend from amended independent claim 7, have been amended to conform to the amendments of claim 7.

Dependent claims 8-12 depend from amended independent claim 7, which is in allowable condition for the reasons discussed above. Accordingly, the dependent claims 8-12 are also in allowable condition, and withdrawal of the rejection of those claims under 35 U.S.C. § 102(a) is respectfully requested.

The Examiner has rejected independent claim 13 as being anticipated by Walker '527. The Examiner found Walker '527 to disclose a printing system having a printing portion and at least one replaceable receiver (Figure 2, references 14, 24, 26) comprising: a first wireless link associated with the replaceable reservoir (Figure 9, reference 44), the first wireless link disposed entirely within the replaceable reservoir (Figure 8, references 14, 44); and second wireless link associated with the printer portion (Figure 9, reference 70), the second wireless link receiving replaceable reservoir information from the first wireless link by transmission of information in a wireless manner (column 6, lines 17-21).

Independent claim 13 has been amended and claims a printing system having a printer portion and at least one replaceable print material reservoir. The printer portion and the at least one replaceable print material reservoir exchanging information therebetween. The printing system comprises a first wireless link associated with the replaceable print material reservoir. The first wireless link is disposed entirely within an interior space for containing print material within the replaceable print material reservoir. A second wireless link is associated with the printer portion. The second wireless link receives replaceable reservoir information from the first wireless link by transmission of information in a wireless manner.

As discussed above with respect to amended independent claims 1 and 7, Walker '527 does not disclose a linking device disposed within the interior space of the ink reservoir, or a linking device disposed entirely within the interior space of the reservoir, where the interior space of the reservoir contains printing material, such as ink. Similarly, Walker '527 does

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not disclose a first wireless link associated with the replaceable reservoir, the first wireless link disposed entirely within an interior space for containing print material within the replaceable print material reservoir. The comments made above with respect to amended independent claims 1 and 7 are equally applicable to amended independent claim 13. Thus, for the same reasons discussed with respect to amended independent claims 1 and 7, Walker '527 does not show, teach or suggest, either implicitly or explicitly, a first wireless link associated with the replaceable reservoir, a first wireless link disposed entirely within an interior space for containing print material within the replaceable print material reservoir, as claimed in amended independent claim 13. Accordingly, withdrawal of the rejection of claim 13 under 35 U.S.C. § 102(a) is respectfully requested.

Claims 15-18, which depend from amended independent claim 13, have been amended to conform to the amendments of claim 13.

Dependent claims 14-18 depend from amended independent claim 13, which is in allowable condition for the reasons discussed above. Accordingly, the dependent claims 14-18 are also in allowable condition, and withdrawal of the rejection of those claims under 35 U.S.C. § 102(a) is respectfully requested.

The Examiner has also rejected independent claim 19 as being anticipated by Walker '527. The Examiner found Walker '527 to disclose a method for transferring status information from a replaceable printing component to a printer portion (column 1, lines 20-24); determining status information (as taught in claim 2) and transferring status information (as taught in claim 3).

Claim 19 has been amended to include a limitation from claim 20, specifying that the replaceable printing component is an ink reservoir and that a sensor is disposed within the ink reservoir. Claim 19 has also been amended to make clear that the sensor is disposed within an interior space of the ink reservoir, the interior space of the ink reservoir for containing ink. As discussed above with respect to amended independent claim 1, Walker '527 does not disclose a linking device disposed within an interior space of the ink reservoir. For similar reasons, Walker '527 does not disclose a sensor within the ink reservoir. The linking device 16 of Walker '527 includes sensors 42 and a link 44. Just as link 44 is not within the interior space of the ink reservoir (as explained with respect to amended independent claim 1), sensors 42 are not within the interior space of the ink reservoir. Accordingly, Walker '527

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does not show, teach, or suggest, either implicitly or explicitly, a sensor disposed within an interior space of the ink reservoir, as claimed in amended independent claim 19.

Accordingly, withdrawal of the rejection of independent claim 19 under 37 U.S.C. § 102(a) is respectfully requested.

Claims 20 and 21, which depend from amended independent claim 19, have been amended to conform to the amendments of claim 19. Because amended independent claim 19 is in allowable condition for the reasons discussed above, the dependent claims 20 and 21 are also in allowable condition. Accordingly, withdrawal of the rejection of those claims under 35 U.S.C. § 102(a) is respectfully requested.

The Examiner has also rejected independent claim 22 as being anticipated by Walker '527. The Examiner found Walker '527 to disclose a replaceable ink container (Figure 2, reference 14; column 1, lines 20-24) including a sensing system (column 2, lines 20-22).

Claim 22 has been amended to specify that the sensing system is within an interior space of an ink reservoir of the replaceable ink container, the interior space of the ink reservoir for containing ink. As discussed above with respect to amended independent claim 19 above, Walker '527 does not disclose a sensor within an interior space of an ink reservoir. Rather, the sensing system of Walker '527 (comprising sensors 42 and link 44) is clearly not within the interior space of the ink reservoir 24. Accordingly, Walker '527 does not show, teach, or suggest, either implicitly or explicitly, sensing system within an ink reservoir for sensing ink parameters within the ink reservoir as claimed in amended independent claim 22. Therefore, withdrawal of the rejection of independent claim 22 under 35 U.S.C. § 102(a) is respectfully requested.

Claims 23 and 25, which depend from amended independent claim 22, have been amended to conform to the amendments of claim 22. Dependent claims 23-25 depend from amended independent claim 22 which is in allowable condition for the reasons discussed above. Accordingly, the dependent claims 22-25 are also in allowable condition, and withdrawal of the rejection of those claims under 35 U.S.C. § 102(a) is respectfully requested.

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CONCLUSION

In light of the above, Applicant believes independent claims 1, 7, 13, 19 and 22, and the claims depending therefrom, are in condition for allowance. Allowance of these claims is respectfully requested.

Any inquiry regarding this Amendment and Response should be directed to either Matthew B. McNutt at Telephone No. (512) 231-0531, Facsimile No. (512) 231-0540 or Kevin B. Sullivan at Telephone No. (858) 655-5228, Facsimile No. (858) 655-5859. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Box RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 13th day of June, 2003.

By 
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